Conics Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_

**To receive credit, do all work on a separate piece of paper.**

**1-9, Identify each equation and the requested information for the corresponding figure;**

Circle: center and radius

Parabola: vertex, focus, directrix and LR points

Ellipse: Center, vertices, covertices, foci, minor and major axis length

Hyperbola: center, vertices, foci and asymptotes

1. y2 = -16x

2.

3.

4. x2 + 4y = 4

5. y2 – 4y - 4x2 + 8x = 4

6. 4x2 + 9y2 – 16x – 18y = 11

7. 4x2 – 16x + 16y + 32 =0

8. 9x2 + 4y2 – 18x + 8y = 23

9. 3x2 + 3y2 – 6x + 12y -12 = 0

**10-16, Write an equation of the conic described. Graph the equation.**

10. parabola; focus (-2, 0); directrix: x=2 11. Ellipse; center: (0,0); focus (0,3); vertex: (0,5)

12. hyperbola; center: (0,0); focus: (0,4); vertex: (0,-2) 13. ellipse; foci: (±3,0); vertex: (4,0)

14. hyperbola; vertices: (±2,0); focus: (4,0) 15. parabola; vertex: (2,-3); focus: (2,-4)

16. circle: endpoints of diameter: (2,0) and (0,-4)

**17-20, Identify each conic without completing the squares.**

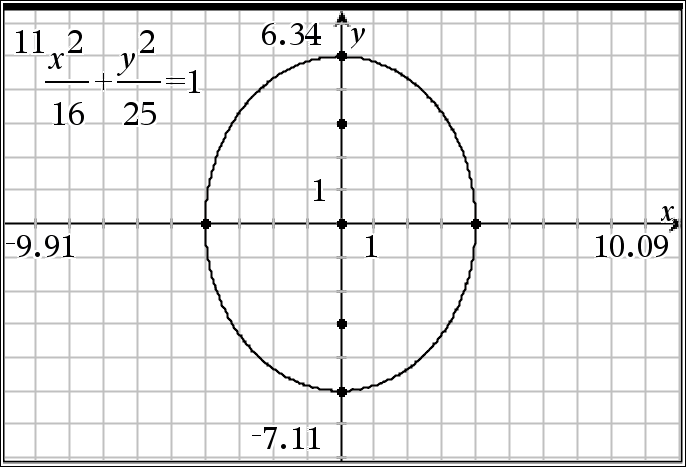
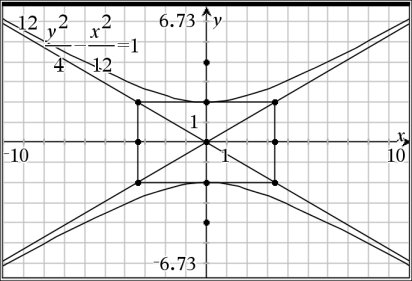
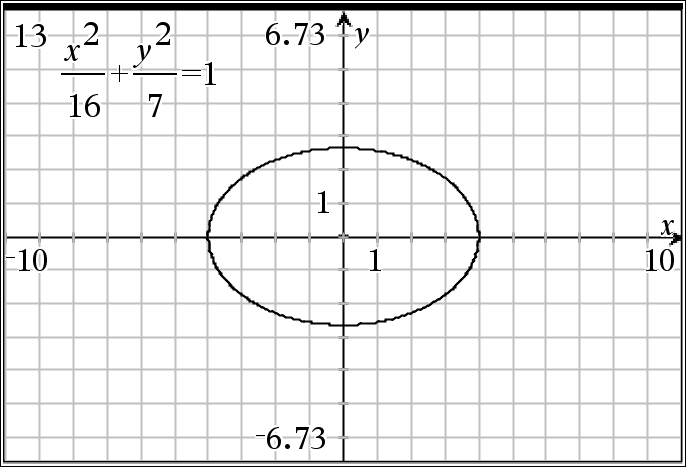
17. y2 + 4x + 3y -8 =0 18. x2 + 2y2 + 4x – 8y + 2 = 0

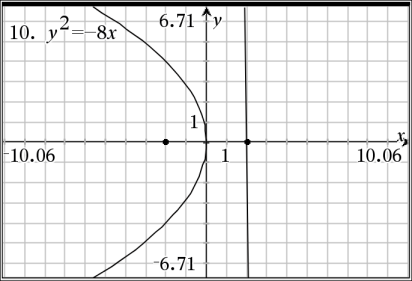
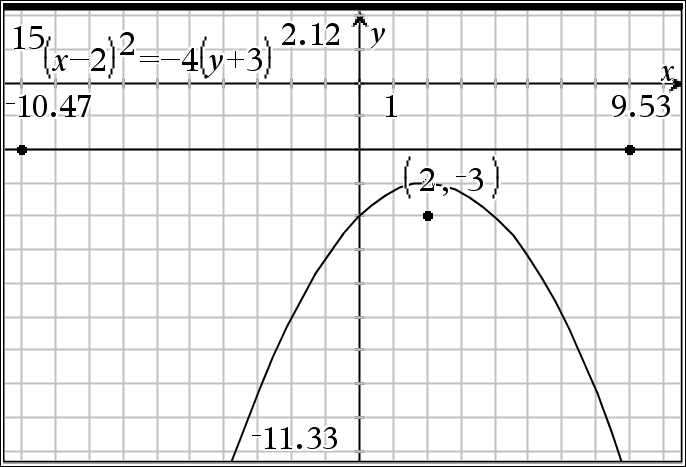
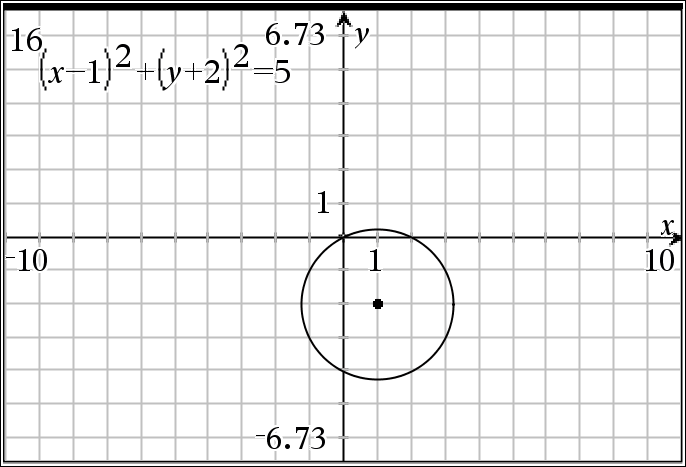
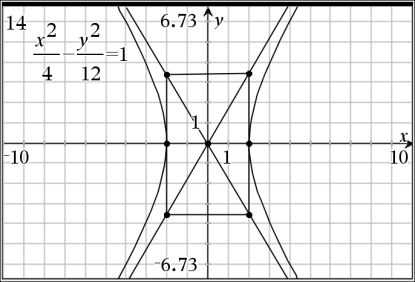
19. x2 – 8y2 – x – 2y = 0 20. 2x2 + 2y2 + 8x + 7 = 0

Answers: 1. Parabola, v:(0,0),f:(-4,0), d: x = 4, LR: (-4,±8) 2. hyperbola, c:(0,0), v:(±5,0), f:(,   
3. ellipse: c:(0,0), v:(0,±5),cv:(±4,0), f: (0,±3), major:10, minor:8 4. parabola, v: (0,1), f: (0,0), d: y=2, LR: (±2,0)

5.hyperbola: c: (1,2), v: (1,4)(1,0), f: (1,, y=2(x-1)+2 6. Ellipse: c: (2,1), v: (5,1), (-1,1), cv: (2,3)(2,-1),

f: (2±,1), major: 6, minor: 4 7. parabola: v: (2,-1), f: (2,-2), d: y=0, LR: (0,-2)(4,-2) 8. ellipse: c: (1,-1),

v: ( 1,2)(1,-4), cv: (3,1)(-1,-1), f: (1,-1, major: 6, minor: 4 9. circle: c: (1,-2), r: 3

17. Parabola

18. Ellipse

19. Hyperbola

20.  Circle